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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,355	12/08/2003	TING-WEI CHUANG	9612-US-PA	1354

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

YAM, STEPHEN K

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/707,355	Applicant(s) CHUANG ET AL.	
	Examiner Stephen Yam	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a *plurality* of red-light pixels, a *plurality* of green-light pixels, and a *plurality* of blue-light pixels, with the red-light detector disposed adjacent to the red-light pixels (plural), the blue-light detector disposed adjacent to the blue-light pixels (plural), and the green-light detector disposed adjacent to the green-light pixels (plural) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a light guider as recited in Claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

The brackets surrounding the title of the application should be removed.

Appropriate correction is required.

Claim Objections

4. Claims 8, 9, 17, and 19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Regarding Claims 8 and 17, all materials are either organic or inorganic, so therefore, the limitation of the electroluminescent layer as an organic or an inorganic material does not further limit the parent claim. Regarding Claims 9 and 19, the metal anode must be either the same or a different material with respect to the metal cathode, so therefore, the limitation does not further limit the parent claim.

5. Claims 2, 6, and 14 are objected to because of the following informalities:

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In Claim 2, line 3, "anda" should be replaced with "and a".

In Claim 6, line 4 and Claim 14, line 8, "a electroluminescent" should be replaced with "an electroluminescent".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. US Patent No. 6,424,326.

Regarding Claims 1 and 13, Yamazaki et al. teach (see Fig. 1-14) an organic electroluminescent device (see Col. 1, lines 38-62 and Col. 22, lines 52-61) and method for fabricating an organic electroluminescent device, comprising a transparent substrate (500) (see Fig. 10-13), a plurality of pixels (555, 557, 558) (see Fig. 13A-13B) disposed on the transparent substrate (see Col. 5, lines 52-54), wherein the pixels comprise a plurality (see Col. 17, lines 10-11) of red-light pixels, a plurality of green-light pixels and a plurality of blue-light pixels (see Col. 5, lines 62-65 and Col. 12, lines 56-59 and Col. 22, lines 24-31), a red-light detector (104a) disposed adjacent (see Fig. 13A-13B) to the red-light pixels on the transparent substrate, a green-light detector (104b) disposed adjacent to the green-light pixels on the transparent substrate (see

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Fig. 13A-13B), and a blue-light detector (104c) disposed adjacent to the blue-light pixels (see Fig. 1) on the transparent substrate (see Fig. 13A-13B).

Regarding Claim 2, Yamazaki et al. teach (see Fig. 13A-13B) each pixel comprising, in sequence, a transparent anode (555) (see Col. 22, lines 2-8), an organic electroluminescent layer (557) (see Col. 22, lines 52-61), and a metal cathode (558) (see Col. 22, lines 18-20).

Regarding Claim 3, Yamazaki et al. teach the transparent anode comprising indium-tin oxide or indium-zinc oxide (see Col. 22, lines 2-9).

Regarding Claim 4, Yamazaki et al. teach the organic electroluminescent layer is made of small molecular organic electroluminescent material or polymer electroluminescent material (see Col. 32, line 65 to Col. 33, line 5).

Regarding Claim 5, Yamazaki et al. teach the metal cathode comprising aluminum, aluminum/lithium fluoride, calcium, magnesium/silver alloy or silver (see Col. 22, line 18).

Regarding Claim 10, Yamazaki et al. teach (see Fig. 14) a light guider (660) coupled to each of the pixels transmitting the light within the device to the corresponding detector (see Col. 25, lines 26-31).

Regarding Claim 11, Yamazaki et al. teach (see Fig. 3) a driving unit (130, 131) coupled to each of the pixels (see Fig. 3), and each of the red-light detector, the green-light detector and the blue-light detector coupled to transfer units (134, 135) (see Fig. 3).

Regarding Claim 12, Yamazaki et al. teach (see Fig. 3) the driving unit and the transfer units are coupled to a control unit (to generate control signals RL, G).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-9 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. in view of Heeger et al. US Patent No. 5,504,323.

Regarding Claims 6 and 14, Yamazaki et al. teach the device and method in Claims 1 and 13, according to the appropriate paragraph above. Regarding Claim 6, Yamazaki et al. teach (see Fig. 12C) each of the red-light detector, the green-light detector and the blue-light detector comprising, in sequence, a metal anode (551) (see Col. 21, lines 51-55), a photoelectric layer (550), and a metal cathode (549). Regarding Claim 14, Yamazaki et al. teach the step of forming the pixels comprises forming a patterned transparent anode (555) (see Col. 22, lines 2-8) on the transparent substrate (see Fig. 13A-13B), forming an organic electroluminescent layer (557) (see Col. 22, lines 52-61) on the transparent anode (see Fig. 13A-13B), and forming a metal cathode (558) (see Col. 22, lines 18-20) on the organic electroluminescent layer, with the step of forming the red-light detector, the green-light detector and the blue-light detector comprises forming a patterned metal anode (551) (see Col. 21, lines 51-55), on the transparent substrate (see Fig. 12C), forming a photoelectric layer (550) on the metal anode (see Fig. 12C), and forming a metal cathode (549) on the photoelectric layer (see Fig. 12C). Yamazaki et al. do not teach the photoelectric layer as an electroluminescent layer. Heeger et al. teach (see Fig. 2) a detector having a cathode and an anode, with a photoelectric layer (11) as an electroluminescent layer

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(see Col. 2, lines 8-10 and Col. 3, lines 49-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an electroluminescent layer as a photoelectric layer as taught by Heeger et al. in the device and method of Yamazaki et al., to re-use materials (organic electroluminescent polymer) during the fabrication of the device for simplifying the manufacturing process.

Regarding Claims 8 and 17, Yamazaki et al. teaches the photoelectric layer comprising an organic or an inorganic material.

Regarding Claims 9 and 19, Yamazaki et al. teaches the metal anode having the same or different material of the metal cathode.

Regarding Claim 15, Yamazaki et al. teach the transparent anode comprising indium-tin oxide or indium-zinc oxide (see Col. 22, lines 2-9).

Regarding Claim 18, Yamazaki et al. teach the organic electroluminescent layer is made of small molecular organic electroluminescent material or polymer electroluminescent material (see Col. 32, line 65 to Col. 33, line 5).

Regarding Claim 20, Yamazaki et al. teach the metal cathode comprising aluminum, aluminum/lithium fluoride, calcium, magnesium/silver alloy or silver (see Col. 22, line 18).

Regarding Claims 7 and 16, Yamazaki et al. in view of Heeger et al. teach the device and method in Claims 6 and 14, according to the appropriate paragraph above. Yamazaki et al. do not teach the metal anode comprising a *non-transparent* metal layer. It is well known in the art to adjust the transparency of electrode layers of a patterned photodetector, depending on the desired sensitivity of the photodetector and the propagation of light to the photodetector. It would have been obvious to one of ordinary skill in the art at the time the invention was made to

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provide the metal anode comprising a *non-transparent* metal layer in the device and method of Yamazaki et al. in view of Heeger et al., to provide detection light through the side of the photodetector to prevent saturation of the photodetector output.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iwata et al. US 6,812,651, Smith et al. US 2005/0007320, Gleason US 6,392,617, Tanada US 6,774,578, Cok et al. US 6,320,325, and Hunter US 6,441,560 teach organic electroluminescent devices having a photodetector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LUU
PATENT EXAMINER